A Hospital based analysis of 71 cases of ectopic pregnancies, Risk factors and management- Retrospective Observational study

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ABSTRACT

Background and Objectives: Evaluation of some risk factors and management of all ectopic pregnancies during 5 years period.

Subjects and methods: During 5 years period risk factors such as pelvic inflammatory disease, tubal ligation, presence of intrauterine device, tubal surgery, prior ectopic pregnancy, female factor infertility and using medical or others treatments for infertility, the anatomic implantation portion of ectopic pregnancy and the treatment modality of all known cases of ectopic pregnancies were evaluated.

Results: The mean age of the study group was 28.69 ± 6.417.Among 71 cases of ectopic pregnancies there were 20 cases (28/16%) with history of infertility and infertility was the most common risk factor. The most common anatomic portion of ectopic pregnancy during surgery was ampulla in 39 cases (79.59%). Twenty two cases (30.98%) were treated with methotrexate and surgical treatments were used for 49 cases (69.02%).

Conclusion: Infertility was the strongest risk factor, ampulla portion was the common anatomic portion and surgical route (laparotomy) was the preferred treatment modality of ectopic pregnancies in this study.

KEYWORDS: Ectopic pregnancy, risk factors, treatment

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INTRODUCTION

An ectopic pregnancy or extra uterine pregnancy is one in which the blastocyst implants anywhere other than the endometrial lining of uterine cavity. So, in the majority of women, it is necessary to remove the ectopic pregnancy [1]. The incidence of ectopic pregnancy in the United States has been reported to be as high as 20 per 1000 pregnancies with 4 fold increases in the last 20 years [2].Clinical presentation can range from subtle nonspecific abdominal complaints to acute onset pain or hemorrhagic bleeding [2].

Ectopic pregnancy remains the leading causes of maternal death in the first trimester r [3].

Fallopian tube is the commonest site of ectopic pregnancy and ultrasonography, combined with serum beta-HCG level is still the most effective modality in diagnosis of ectopic pregnancy [4].

There are some known risk factors for ectopic pregnancy. Prior ectopic pregnancy is a strong risk factor but there is association with pelvic inflammatory disease and previous abortion [5].

Menon et al study suggests that different risk factors may be associated with ectopic pregnancy in adolescents compared to adults, classical risk factor such as prior ectopic pregnancy and prior pelvic surgery are significantly more likely to be associated with adult than adolescents ectopic pregnancy but adolescents patients are significantly more likely to present with abdominal pain and current gonorrhea and or Chlamydia infection [6].

There are several management options for ectopic pregnancy including expectant and medical treatment with systemic methotrexate in hem dynamically stable women with an unruptured tubal ectopic pregnancy and surgical management including laparotomy and laparoscopy for ruptured ectopic pregnancies [7, 8].

In this study some risk factors and management of all ectopic pregnancies that were admitted in amir university hospital, semnan, Iran during 5 years duration were evaluated.

MATERIALS AND METHOD:

This is a **retrospective observational study** that carried out in Amir University hospital, semnan, Iran from the 1st of April 2007 to the 1st of October 2012.

During the study period all known cases of ectopic pregnancy were evaluated. The diagnostic tools of ectopic pregnancies were serial beta-HCG titer and transvaginal ultrasonography.

Some risk factors such as pelvic inflammatory disease, tubal ligation, presence of intrauterine device, tubal surgery, prior ectopic pregnancy, infertility and using medical or others treatments for infertility were evaluated.

The anatomic position of ectopic pregnancy and the treatment modality of ectopic were evaluated.

After gathering of data the risk factors, anatomic portion of ectopic pregnancies & treatment modality consists of medical or surgical were compared with others study.

Criteria for medical treatments with methotrexate were un-ruptured ectopic pregnancies, ectopic pregnancy sizes less than 3.5cm, absence of fetal heart activity and hemodynamic ally stable patients.

Methotrexate were used with dosage 50mg/m2 body surface area intramuscular as single dose and if serum BHCG level does not decline by 15% from day 4 to day 7 additional dose were used until serum beta-HCG became undetectable in weekly surveillance.

Data are expressed as percentages in the text and tables. Statistical analyses were performed by using statistical package for social medicine (version 16/0)

OBSERVATION AND RESULTS:

The mean age of the study group was 28.69 ± 6.417. Forty six cases (64.78%) were Multipara and 25 cases (35.21%) were nullipara. Among 71 cases there were 20 cases (28.16%) of infertility, 9 cases (12.67%) of presence of intra uterine device (IUD), 8 cases (11.26%) of prior ectopic pregnancy, 6 cases (8.45%) of previous tubal surgery, 5 cases (7.04%) of tubal ligation and 4 cases of infertility treatment consists of ovulation induction in 2 cases and intrauterine insemination in one case and zygote intra-fallopiane transfer in one case. (Table1) so three cases among 49 cases had more than one risk factor and the remaining of the 19 cases had no known risk factor for ectopic pregnancy.

Table 1: Risk factors of ectopic pregnancy

Risk Factor	Number	Percent
Infertility	20	28.16
Intra uterine device	9	12.67
Prior EP	8	11.26
Tubal surgery	6	8.45
Tubal ligation	5	7.04
Infertility treatments	4	5.63
Total	52	73.21

The most common anatomic portion of ectopic pregnancy during surgery were ampulla (39 case, 79.59%), fimbria (4cases, 8.16%) ovary (3 cases, 6.12%) isthmic (1case 2.04%) abdominal (1case, 2.04%) and cournal (1case, 2.04%). (Table 2).the abdominal and cournal ectopic cases were treated with laparotomy. Cournal resection in cournal ectopic case and resection of ectopic tissues and proper hemostasis in abdominal ectopic case were used.

Table 2: The anatomic portion of entopic pregnancy during surgery

Anatomic Portion of EP(surgical Cases)	Number	percent
Ampulla	39	79.59
Fimbria	4	8.16
Ovary	3	6.12
Isthmic	1	2.04
Abdominal	1	2.04
Cornua	1	2.04
total	49	100

Medical treatments with methotrexate were used for 22 cases (30.98%) and surgical treatment As first line treatment consists of laparotomy and laparoscopy were used for 41 (57.74%) and 8 cases (11.26%) respectively. Forty six cases were underwent salpingectomy but salpingostomy were used in one case of laparotomy and two cases in laparoscopic group. Laparoscopy was converted to laparatomy in one case. Two cases in methotrexate group were underwent laparoscopy because they had failure to treatment with medical therapy.

DISCUSSION

Infertility was the strongest risk factor of ectopic pregnancy (28.16%) in this study whereas in Bam hart and selway et al studies reported that previous ectopic pregnancy and number of prior ectopic pregnancy are the strongest risk factor [8, 9].

Menon etal study suggested that classical risk factors such as previous entopic pregnancy and prior pelvic surgery were significantly associated with adult than adolescent's ectopic pregnancy [6].

In this study 8.45% of patients were undergone prior tubal surgery and 7.04% of cases were undergone prior tubal ligation.

Ectopic pregnancies and infertility are the squeals of pelvic inflammatory disease [10] and infertility per se as well as the use of assisted reproductive technology (ART) to overcome it is associated with substantively increased risk for ectopic pregnancy. Ectopic pregnancy rates are 4-3 percent following zygote intra fallopian transfers and 1.8 percent with invitro fertilization [11].

In this study ectopic pregnancy is happened following both zygote intrafallopian transfer (ZIFT) and intra uterine insemination (IUI) in 2.04% percents.

In this study the most common anatomic Portion of ectopic pregnancy was ampulla. (85.91%)

Nearly 95 percent of ectopic pregnancy is implanted in the various segments of the fallopian tubes. (Ampullary 70%, Isthmic 12%, fimbrial 11%, inter stitial and cornual 2-3%). the remaining 5 percent implant in ovary, peritoneal cavity or cervix [11].

Nontubal ectopic pregnancies are cervical, interstitial, cesarean Scar, ovarian, cornual or abdominal [12] and approximately 3% of ectopic pregnancies are located in the ovaries [13].

In this study the origin of 4.22% of ectopic pregnancy were ovaries.

The first line treatment of both tubal and nontubal ectopic pregnancy are medical treatment with methotrexate, in those who require surgery, the type of procedure depends on the clinical situation and location of pregnancy, most of cases can and should be preformed by laparoscopy. The laparoscopic approach is associated with many advantages including short hospital stay, low cost and less adhesion formation [14].

Methotrexate could be used in unruptured ectopic pregnancy and in ruptured ectopic pregnancy with stable homodynamic. Its success rate is 81% and 62% respectively [15].

In this study about 30.98% of cases were treated with methorexate and all of them were unruptured ectopic pregnancies.

The level of decrement of beta-HCG, history of previous ectopic pregnancy and the presence of a yolk sac are risk factors for failure of methotrexate treatment [16, 17, and 18].

Laparoscopy could be used in the diagnosis and treatment of ectopic pregnancy [19]. Laparoscopic management of ectopic pregnancy on 473 women during a 9 year period shows that laparoscopic salpingostomy were performed in 84.9% of the patients and it is a safe and effective treatment for ectopic pregnancy [20]. Laparoscopic management of ectopic pregnancy in obese patients (Body mass index (BMI)>30) is as safe as in lean patients (BMI<30) [21].

In this study only 8 cases (16.32%) were undergone laparoscopy and 41 cases (83.67%) were undergone laparatomy.

Therefore, the surgical management of ectopic pregnancy in our hospital should be changed and using more laparoscopy approach is mandatory.

CONCLUSION: Infertility is the strongest risk factor, ampulla portion of fallopian tube is the most common anatomic place of implantation and laparotomy is the most preferred treatment modality in the ectopic pregnancies cases in our center.

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